

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055306

Luminaire Tested: S122R3DR-H290D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055306
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DR-H290D830-X4F0-XX-UDD-F-S
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

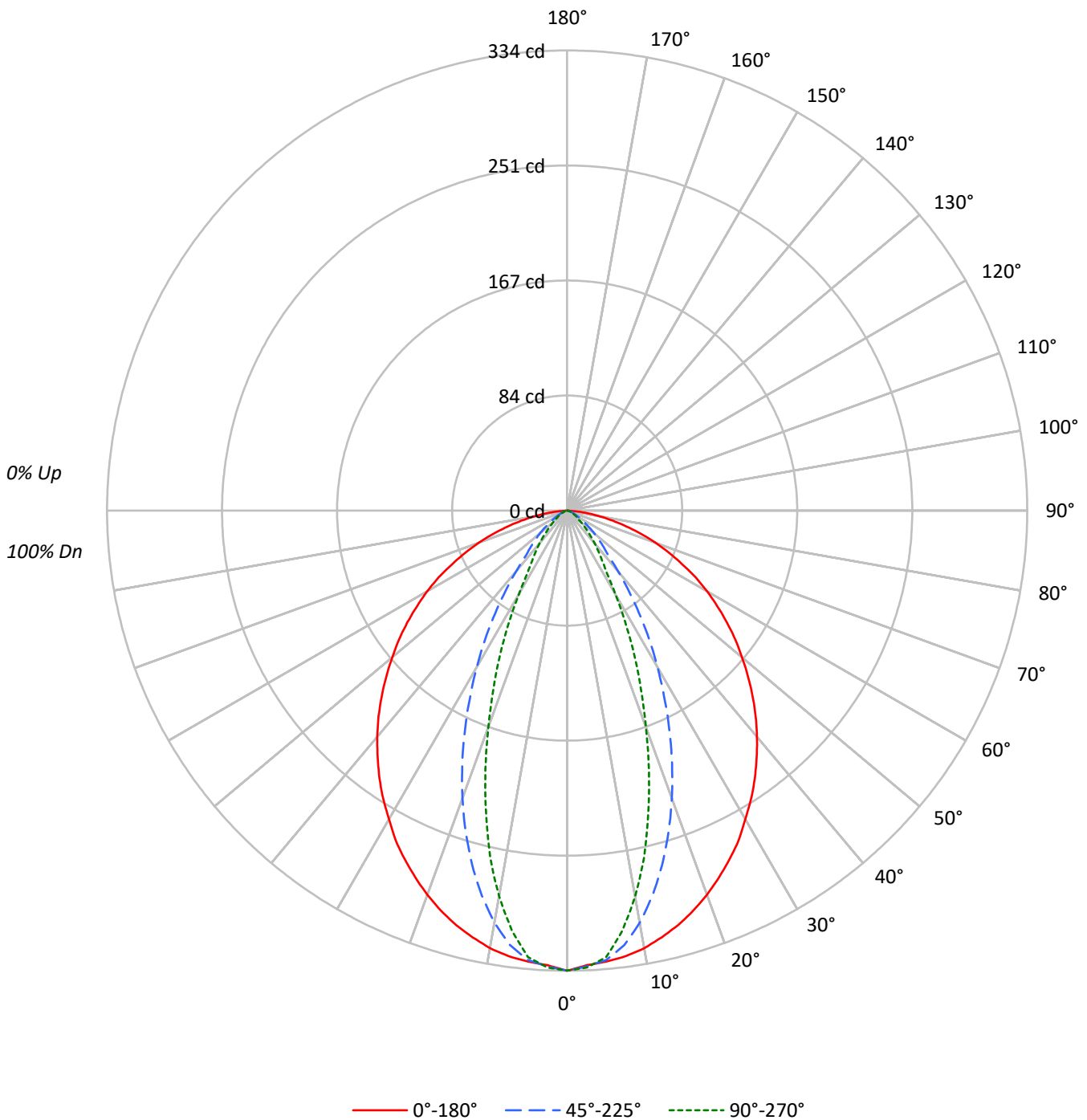
Lumens per Lamp: N/A
Luminaire Lumens: 382.7 lumens
Efficiency: N/A
Efficacy: 32.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53
7	75	64	57	52	74	63	56	51	62	56	51	60	55	51	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	45
9	67	56	49	44	66	55	48	44	54	48	44	53	47	43	52	47	43	42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6326	6326	6326
5°	6249	6227	6187
10°	6204	5843	5471
15°	6108	5225	4462
20°	5982	4480	3367
25°	5834	3671	2404
30°	5657	2866	1531
35°	5491	2102	1022
40°	5303	1417	769
45°	5099	997	549
50°	4884	760	386
55°	4677	528	284
60°	4452	356	231
65°	4129	256	184
70°	3761	205	161
75°	3265	183	117
80°	2586	131	131
85°	1413	174	87

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5099 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.5	8.0
10°-20°	74.9	19.6
20°-30°	85.6	22.4
30°-40°	72.6	19.0
40°-50°	54.2	14.2
50°-60°	35.0	9.1
60°-70°	19.5	5.1
70°-80°	8.6	2.2
80°-90°	1.8	0.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	191.1	49.9
0°-40°	263.7	68.9
0°-60°	352.9	92.2
0°-90°	382.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	382.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	334	334	334	334	334	
5°	329	333	327	324	325	31
15°	311	304	266	238	228	88
25°	279	246	176	128	115	128
35°	237	179	91	50	44	148
45°	190	113	37	24	20	147
55°	142	54	16	10	9	127
65°	92	20	6	4	4	92
75°	45	4	2	2	2	48
85°	6	0	1	0	0	9
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	333.9	333.9	333.9	333.9	333.9
2.5°	330.3	335.2	331.1	331.1	331.9
5°	328.6	332.7	327.4	324.1	325.3
7.5°	326.2	329.0	318.0	308.2	307.3
10°	322.5	323.7	303.7	288.5	284.4
12.5°	317.2	314.3	286.1	264.8	257.8
15°	311.4	303.7	266.4	238.2	227.5
17.5°	304.5	290.6	244.7	210.4	197.3
20°	296.7	277.1	222.2	181.3	167.0
22.5°	288.1	261.9	198.9	153.9	139.6
25°	279.1	246.4	175.6	128.5	115.0
27.5°	269.7	230.0	152.6	105.6	90.9
30°	258.6	213.2	131.0	83.5	70.0
32.5°	248.4	195.6	110.9	64.7	53.2
35°	237.4	178.8	90.9	49.5	44.2
37.5°	225.9	162.1	73.3	41.7	37.2
40°	214.4	145.3	57.3	35.2	31.1
42.5°	202.6	128.9	44.2	29.5	25.4
45°	190.3	113.0	37.2	24.1	20.5
47.5°	178.0	97.0	31.1	19.2	16.4
50°	165.7	81.8	25.8	15.1	13.1
52.5°	153.9	67.5	20.5	12.3	10.6
55°	141.6	53.6	16.0	9.8	8.6
57.5°	129.3	41.7	12.3	8.2	7.4
60°	117.5	31.5	9.4	6.5	6.1
62.5°	105.2	25.4	7.4	5.3	4.9
65°	92.1	19.6	5.7	4.5	4.1
67.5°	80.2	14.3	4.5	3.7	3.3
70°	67.9	9.8	3.7	3.3	2.9
72.5°	56.1	6.1	2.9	2.5	2.5
75°	44.6	4.1	2.5	2.0	1.6
77.5°	34.0	2.5	1.6	1.6	1.2
80°	23.7	1.6	1.2	1.2	1.2
82.5°	14.7	1.2	0.8	0.8	0.8
85°	6.5	0.4	0.8	0.4	0.4
87.5°	1.2	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.66	15.98	15.02	16.29	16.60	0.98	2.30	1.35	2.62	2.93
	3H	17.13	18.30	17.51	18.63	18.99	1.84	3.02	2.22	3.34	3.71
	4H	18.08	19.18	18.49	19.53	19.91	2.11	3.20	2.51	3.55	3.94
	6H	18.77	19.78	19.19	20.15	20.54	2.29	3.29	2.70	3.66	4.06
	8H	18.97	19.92	19.40	20.31	20.71	2.36	3.31	2.79	3.70	4.11
	12H	19.05	19.96	19.48	20.34	20.77	2.38	3.29	2.81	3.67	4.10
4H	2H	14.44	15.53	14.84	15.88	16.27	1.55	2.64	1.95	2.99	3.37
	3H	16.93	17.82	17.34	18.22	18.63	2.59	3.49	3.01	3.89	4.30
	4H	17.87	18.67	18.31	19.09	19.53	2.95	3.75	3.38	4.17	4.61
	6H	18.63	19.32	19.09	19.76	20.23	3.22	3.92	3.69	4.36	4.83
	8H	18.87	19.51	19.34	19.96	20.43	3.32	3.96	3.79	4.41	4.88
	12H	19.00	19.56	19.48	20.05	20.52	3.36	3.93	3.84	4.41	4.88
8H	4H	17.74	18.38	18.21	18.83	19.30	3.32	3.96	3.79	4.41	4.88
	6H	18.48	19.00	18.98	19.50	19.98	3.66	4.18	4.16	4.68	5.16
	8H	18.72	19.19	19.24	19.71	20.20	3.79	4.26	4.31	4.78	5.27
	12H	18.87	19.28	19.38	19.78	20.35	3.87	4.28	4.38	4.78	5.35
12H	4H	17.69	18.26	18.18	18.75	19.22	3.44	4.01	3.93	4.49	4.97
	6H	18.42	18.89	18.94	19.40	19.90	3.78	4.25	4.30	4.76	5.26
	8H	18.68	19.09	19.19	19.59	20.16	3.95	4.36	4.46	4.86	5.43